

## CLAIMS

1. A method for printing a document with a security marking comprising:
  - a) providing an ink capable of printing images which are visible both to viewing under white light and as fluorescent images when irradiated with ultraviolet light; and
  - b) printing at least two image segments, the segments having features of different sizes,wherein the relative sizes of the two image segments will provide a detectable difference in fluorescent image sharpness.
2. A method according to claim 1 wherein the visible image of both image segments are readable by machine.
3. A method according to claim 1 wherein at least one image segment will have feature dimensions within the range of from about 50 to 200  $\mu\text{m}$  and at least one image segment will have feature dimensions of at least about 100  $\mu\text{m}$ , and the two image segments will have features that differ in feature dimension by at least about 50%.
4. A method according to claim 3 wherein, the two image segments will have features that differ in feature dimension by at least about 100%.
5. A method according to claim 1 wherein the two barcode segments are printed with a POV ink.
6. A method for authenticating printed documents comprises:
  - a) obtaining at least one document having an image printed thereon comprised of at least two segments of different feature size, said image printed with an ink capable

- of printing images which are visible both to viewing under white light and as fluorescent images when irradiated with ultraviolet light;
- b) illuminating both image segments with both white light and ultraviolet light;
  - c) measuring the positive and negative contrast for both image segments;
  - d) comparing the measured contrast values for the segments to predetermined values; and
  - e) based on the comparison, determining if the document is an original or if it is identified as a copy.
7. An apparatus for testing a document printed with a security marking comprising:
- a) means for illuminating image segments of a document having two barcode segments;
  - b) means for measuring the positive and negative contrast for both image segments;
  - c) means for comparing the measured contrast values for the segments to predetermined values; and
  - d) means for, based on the comparison, determining if the document is an original or if it is identified as a copy.
8. A printed document with a security marking, comprising:
- at least two image segments printed with an ink capable of forming images which are visible both to viewing under white light and as fluorescent images when irradiated with ultraviolet light, the segments having features of different sizes, wherein the relative sizes of the two image segments will provide a detectable difference in fluorescent image sharpness.